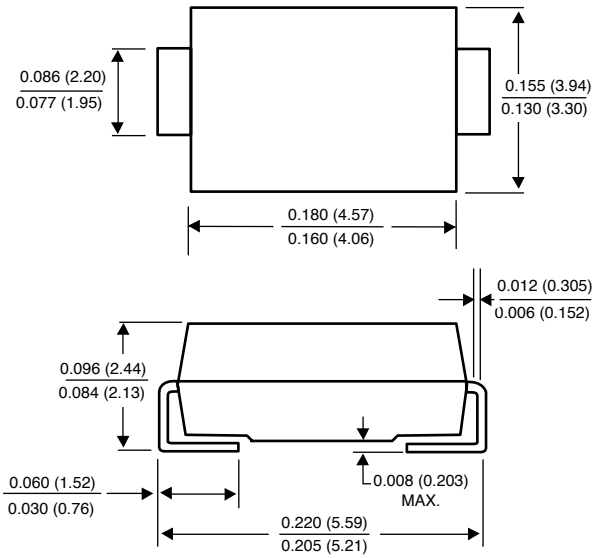
ES2A THRU ES2D

SURFACE MOUNT FAST EFFICIENT PLASTIC RECTIFIER

Reverse Voltage - 50 to 200 Volts **Forward Current -** 2.0 Amperes

DO-214AA



Dimensions in inches and (millimeters)

FEATURES

- ♦ Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- ♦ For surface mount applications
- ♦ Low profile package
- ♦ Built-in strain relief
- ♦ Ideal for automated placement
- ♦ Easy pick and place
- ♦ Glass passivated chip junction
- ♦ Superfast recovery times for high efficiency
- ♦ Low power loss, high efficiency
- ♦ High temperature soldering: 250°C/10 seconds at terminals

MECHANICAL DATA

Case: JEDEC DO-214AA molded plastic body over passivated chip
Terminals: Solder plated solderable per MIL-STD-750, Method 2026
Polarity: Color band denotes cathode end
Weight: 0.003 ounces, 0.093 gram

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

	SYMBOLS	ES2A	ES2B	ES2C	ES2D	UNITS
Device marking code		EA	EB	EC	ED	
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	150	200	Volts
Maximum RMS voltage	V_{RMS}	35	70	105	140	Volts
Maximum DC blocking voltage	V_{DC}	50	100	150	200	Volts
Maximum average forward rectified current at T_L=110°C	$I_{(AV)}$	2.0				Amps
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) at T_L=110°C	IFSM	50.0				Amps
Maximum instantaneous forward voltage at 2.0A	V_F	0.90				Volts
Maximum DC reverse current at rated DC blocking voltage T_A=25°C / T_A=100°C	I_R	10.0 350				μA
Maximum reverse recovery time (NOTE 1)	t_{rr}	20.0				ns
Maximum reverse recovery time (NOTE 2) T_J=25°C / T_J=100°C	t_{rr}	30.0 50.0				ns
Maximum stored charge (NOTE 2) T_J=25°C / T_J=100°C	Q_{rr}	10.0 25.0				nC
Typical junction capacitance (NOTE 3)	C_J	18.0				pF
Maximum thermal resistance (NOTE 4)	$R_{\Theta JA}$ $R_{\Theta JL}$	75.0 20.0				°C/W
Operating junction and storage temperature range	T_J, T_{STG}	-55 to +150				°C

NOTES:
(1) Reverse recovery test conditions: I_F=0.5A, I_R= I.0A, I_{rr}=0.25A
(2) T_{rr} and Q_{rr} measured at: I_F=2.0A, V_R=30V, di/dt=50A/μs, I_{rr}=10% I_R
(3) Measured at 1.0 MH_Z and applied reverse voltage of 4.0 Volts
(4) Units mounted on P.C.B. 5.0 x 5.0mm (0.013mm thick) land areas

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RATING AND CHARACTERISTIC CURVES ES2A THRU ES2D

FIG. 1 - MAXIMUM FORWARD CURRENT DERATING CURVE

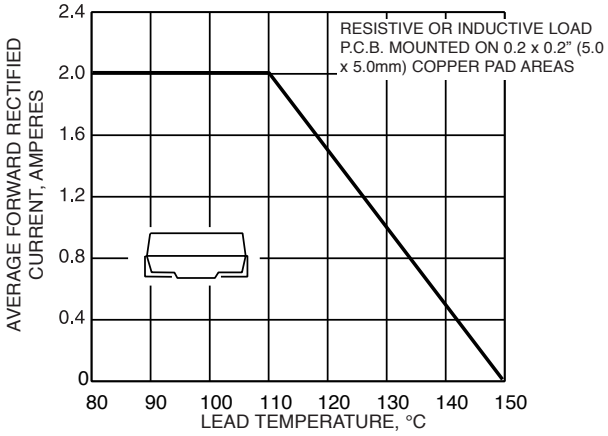


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

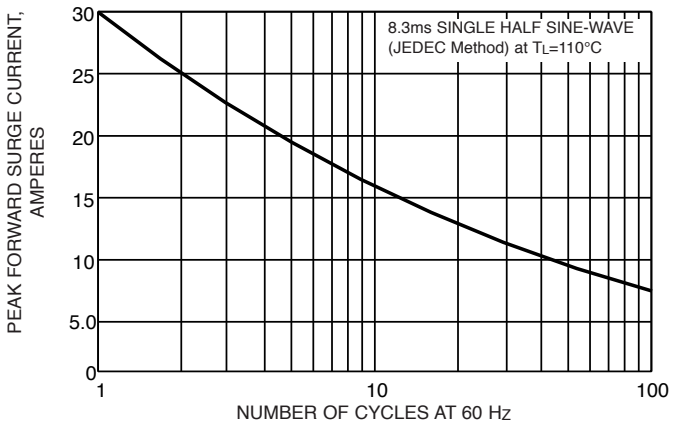


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

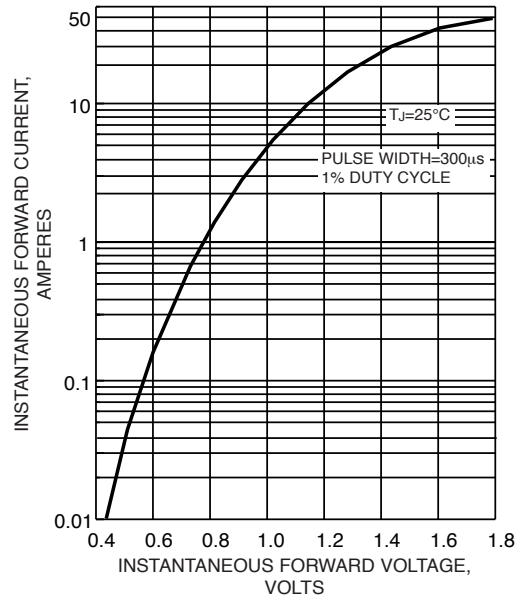


FIG. 4 - TYPICAL REVERSE LEAKAGE CHARACTERISTICS

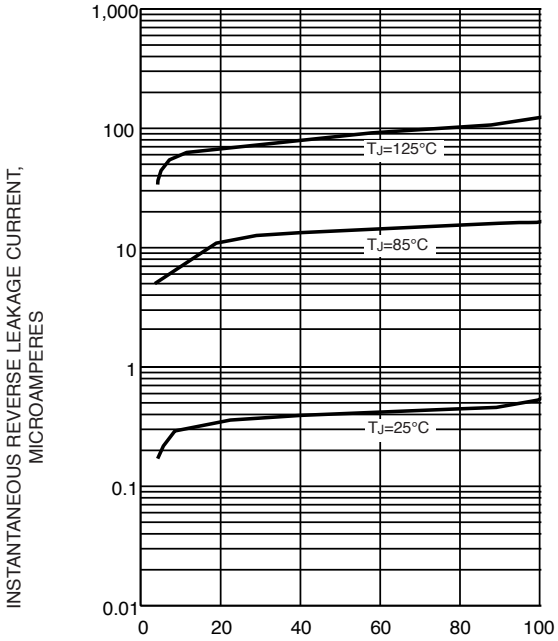
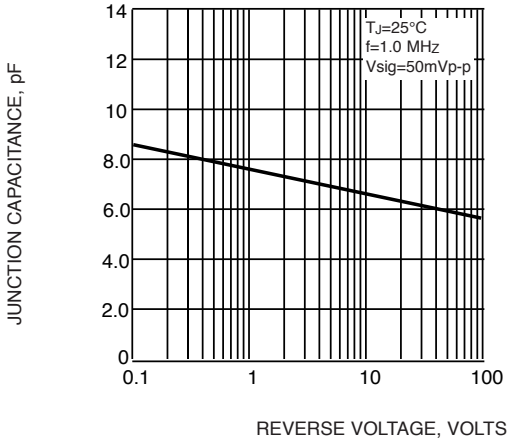
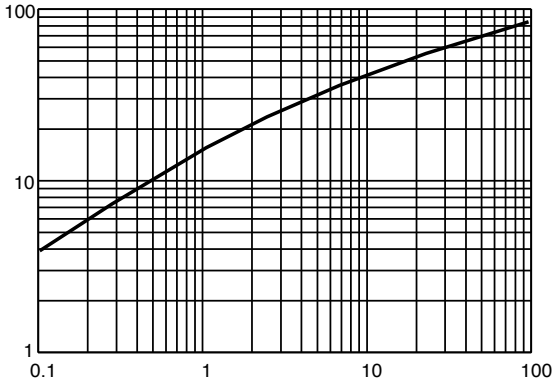


FIG. 5 - TYPICAL JUNCTION CAPACITANCE





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